

Outdoors in Georgia

January 1976 50c





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This is my swan song. I am retiring as Deputy Commissioner on the first of January. By the time you read this I will already be referred to as Ole Whasizname Who Used to Work Here. But as I go, I've got a few words in parting for the readers of *Outdoors in Georgia*.

First, this business of conservation and stewardship of natural resources needs all the help it can get from the average citizen. We already have all the help we need from special interests and, in the nature of politics, are likely to get much more.

As an unusual example of special interests, when I first came to the old Game and Fish Commission, there were a very few people with our University system who drew their pay as ecologists. Now, the woods are full of them (I should say the laboratories are full of them—the woods are as bare as ever). A whole new special interest group has arisen, and sometimes I wonder if the propagation of this new religion—environmental protectionism—consumes too much of our energy, leaving little to protect the environment!

Frankly the Alcovy Swamp and our coastal marshes, two examples of our precious natural heritage, are *not* saved from destruction—we have merely protected them for the time being. We can lose them at any time—at any time the average citizen forgets to insist that they be saved. There are always people ready to use our common natural heritage for their own selfish needs. These people are not mean or ugly—they are simply human beings like you and I. When we face these people, be they environmental extremists or developers,

we have to be selfish for the average man, for the common interests, and for future Georgians.

The nature of the conservation game is politics. Get apathetic about politics, if you will, that is your prerogative. Then watch as special interests—who are never apathetic about politics—gobble up your swamps, woodlands, and wildlife. It can happen—indeed, it will happen—if you don't keep it from happening.

I am no doomsday prophet. I do not believe it is too late to save our environment. I believe we can have orderly growth and development while protecting our resources. Preservation is not always the single best use of a resource, just as wholesale development is not always the best use. I am more optimistic about our natural resources than I have ever been, for we, all of us—from the urban Atlantan to the farmer in Attapulgus, have seen what can happen if we forget.

It has always been our goal to manage Georgia's resources in such a way that those of us living today could reap a bountiful harvest of our game and fish, enjoying these resources to the fullest, while managing and conserving them in such a manner that generations of Georgians yet unborn may also be able to enjoy the same natural resources.

This may be my swan song but it is just the beginning for the outdoors in Georgia. Let us all fight to keep it the way it should be. I may be retiring but I am not retiring from my desire to have a Georgia that remains full of nature's handiwork.

George T. Bagby



Under the Gold

Georgia's Capitol, a continuing legacy

By Bill Hammack

Wearing a 43-ounce cap of Georgia gold worth about \$6,000 on today's market stands the state's 86-year-old Capitol, a beloved landmark whose value cannot be measured in money. The State Capitol is more than a workplace in an array of state office buildings—it is a heritage to all Georgians, and a heritage wears no price tag.

In this day of steel and glass and concrete buildings which have about as much personality as a rusty reinforcing rod, the stately Capitol—with its classic renaissance architecture—is a sight for skyscraper-weary eyes. But only a few decades ago it had become something of an eyesore.

The post-World War I depression hit the farm harder and longer than any other sector of the national economy. Georgia, then firmly rooted in agriculture, suffered severely, and the government had to hoe a barren row.

Lacking necessary upkeep money, state officials had no choice but to let the Capitol backslide. Its grassy lawns grew patched and brown, and its shrubbery was scraggled and sparse. Inside the grand old building, ceilings cracked, paint peeled, the dome creaked and settled dangerously. The copper lady atop the dome was literally falling apart. Her lifted torch-bearing arm had

worked loose and in high windstorms it swung back and forth as though she were signaling for help.

Help was on the way. When he was governor, U.S. Senator Herman Talmadge started the Capitol spruce-up by having the exterior sandblasted. In 1957 Governor Marvin Griffin turned the jurisdiction of the building and grounds over to Secretary of State Ben W. Fortson, Jr., making the necessary funds available for renovation.

"Mr. Ben" remembers investigating the Capitol's disrepair. "We found some scary things," he said. "For instance, people couldn't go up into the dome because it was too dangerous. The stairway was in terrible shape. And the dome was settling so badly we had to jack it up." Mr. Ben went to work with vigor on his new Capitol assignment: restoring, refurbishing, repairing, rebuilding.

Today the imposing edifice glows in its five-acre setting of green lawns and bright flowers and well-tended shrubs. It has become a mecca for tourists and a happy experience for Georgia students who absorb history the exciting way as they tour the Capitol.

Some of the Georgians who forged the history of our State are represented in sculpture that surrounds the

Photo by Cathy Cardarelli

building. There are statues of General John B. Gordon, the first Governor to move into the Capitol; Thomas E. Watson, who served as both U.S. Representative and Senator and who established Rural Free Delivery; Eugene Talmadge, elected Governor for four terms; and Governor and Mrs. Joseph E. Brown. The sculpture of the Browns is one of the few husband-wife statues in the world and the only one of a governor and his first lady. The most recent monument, dedicated last year, is of U.S. Senator and former Governor Richard Brevard Russell, Jr. The uplifted right arm of Senator Russell's statue, viewed from a certain angle on Washington Street south of the statue, seems to gesture toward the Capitol as though inviting attention to this remarkable building.

And Georgia's Capitol was remarkable from the first. It was built within its initial appropriation, a feat which seems incredible when considered in light of today's runaway inflation and the overruns which beset current construction projects. Even in the 1880s, when the Capitol was erected, the accomplishment was unprecedented. The legislature appropriated \$1 million for the structure and after all the bills were paid, the building fund account showed a balance of \$118.43.

Before work could begin on the marble and limestone landmark which would become an arena for epic political battles, there was a fight about where the Capitol was to be located. The old capital city, Milledgeville, fought to retain that distinction, while Atlanta struggled to acquire it. Atlanta won.

In 1879 the Legislature designated the old City Hall area in Atlanta as the site of the new Capitol. Work did not begin right away because of a situation familiar to state officials today—shortage of funds. Not until 1883 was the Legislature able to provide the money, stipulating that costs should not exceed \$1 million. The lawmakers named a five-man commission with the Governor serving as ex-officio chairman to direct construction work. The commission chose a design submitted by a Chicago architectural firm and, after calling for bids twice, picked an Ohio builder. Indiana limestone was selected for the exterior after the commissioners looked into the possibility of using Georgia marble or granite. They rejected the bid incorporating Georgia marble because it overran the budget by about \$15,000.

However, the commissioners were able to build the halls—including the walls, floors and stairs—of Georgia marble, and they used other native materials in the construction as often as they could. Iron girders were fabricated in Pennsylvania of Georgia ore; most of the woodwork was cut in Georgia forests, and 450,000 bricks from the old City Hall were salvaged for the new Capitol.

When it was completed in 1889, five years after work started, the dedication ceremonies drew huge crowds of people who marveled at the impressive structure which was, at the time, Atlanta's tallest building. They packed the interior, many stopping to gape in awe at

the breathtaking open rotunda which rises 237 feet from the second floor through the tiers of upper stories to the ceiling of the dome. They crowded around the windows of the dome, admiring the sweeping view of Stone Mountain, Kennesaw Mountain, and the rolling countryside all around.

The Capitol today attracts a steady stream of visitors who come to see the chambers of the House of Representatives and the Senate and the offices of the Governor. Through the years, various groups and agencies have contributed to the Capitol's charm with displays of state minerals and wildlife, Indian artifacts and exhibits on state agriculture and history. The building abounds in historic works of art. There are portraits and busts of men and women who contributed significantly to the state.

Georgia's founder, General James Edward Oglethorpe, is there, along with Button Gwinnett, one of Georgia's three signers of the Declaration of Independence. Gwinnett's rare autograph is worth a fortune today—Georgia owns one. Other Georgians are honored—Margaret Mitchell, author of *Gone With the Wind*; Moina Michael, who started the custom of wearing red poppies on Veteran's Day; Juliette Gordon Low, founder of the Girl Scouts; Dr. Martin Luther King, Jr., winner of the Nobel Peace Prize in 1964; Dr. Crawford Long, the first surgeon to use ether as an anesthetic; Alexander Stephens, who served as vice president of the Confederacy and later as governor of Georgia. Stephens was a man who never topped the hundred-pound mark on the scales. A political opponent once bellowed at Stephens that he could grease him and swallow him whole. Stephens replied that if his antagonist carried out his threat, he'd have more brains in his belly than he had in his head.

The quartet of portraits around the top of the rotunda are the oldest owned by the state. Of Washington, Jefferson, Franklin and Oglethorpe, they were painted in 1826 for \$200. In the 1950s, when the portraits needed cleaning and restoration, the bill came to \$30,000.

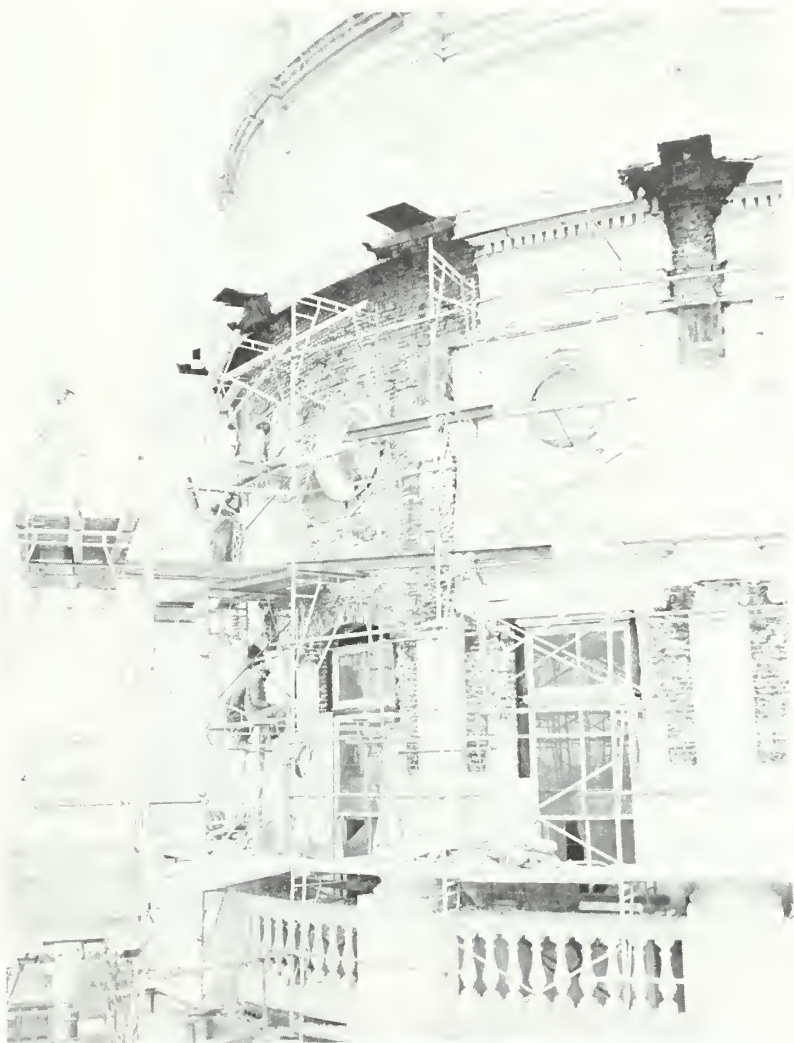
The golden cap on the Capitol dome was not part of the original construction. At first, the dome was topped with homely galvanized steel. Over the years the steel deteriorated and when the Capitol was renovated, in 1958, citizens of Dahlonega and Lumpkin County donated 43 ounces of native gold for the dome. The old steel was stripped off, exposing the terra cotta block underpinnings, and gilders applied the gold leaf in strips four-millionths of an inch thick. At the same time, the Capitol's numerous fireplaces were covered, the tall ceilings were lowered and a number of modern windows were installed. Although the Secretary of State's office was refurbished and restored, Mr. Ben insisted that it retain its tall ceilings and lofty wooden windows.

The figure atop the dome is a lady of some mystery. The 2,000-pound statue seems appropriate to the structure, but Secretary of State Fortson says he can find nothing in the original building plans calling for a statue on the dome. One report says that the figure—

Right: By May of 1958, renovation of the Capitol was underway. Bottom right: Ben Fortson rolled his wheelchair to a precarious perch on the dome to inspect repairs.

Below: Here's what the fourth floor looked like before restoration started.

Photos courtesy of Secretary of State





Photos by Cathy Cardarelli



Photo by Bob Busby

Exhibits display Georgia's myriad wildlife.

From the rotunda, looking 237 feet up toward the dome.



Color motif of the chamber of the House of Representatives is red. In the Senate Chamber, it's blue.

cast by an Ohio firm—was intended to grace that state's Capitol. Another account says the statue was created specifically for the dome of Georgia's Capitol. It hardly matters now, however, for "Miss Freedom" stands, 15 feet tall, on Georgia's Capitol dome and none would dream of removing her.

In one hand she holds a sword, which is about the only weapon Secretary of State Fortson failed to use in his celebrated war on the starlings. In 1963 hordes of starlings invaded the Capitol—roosting in the eaves, perching on the window sills, chittering shrilly from the shrubs, and covering everything with a smelly snow-storm of white droppings. The starling, introduced to the United States in the late 19th century, is generally despised because of the damage it does to buildings and statues. (See "The Invaders," *Outdoors in Georgia*, December 1975.)

When the starling plague struck, Mr. Ben fought back. He fought with shotguns—his gunners brought down thousands of the feathered varmints. But with



Photo by Cathy Cardarelli

Flags of all 50 states hang in the Capitol's Hall of States.

millions of the birds roosting around the Capitol, the difference was scarcely noticeable.

He tried smudge pots; he tried feather dusters as scarecrows. Somebody suggested moth balls in gallon syrup buckets, and Fortson festooned the trees around the Capitol with them. Some of the buckets still hang there today.

For seven and a half years, the starlings came as regularly to Georgia's Capitol as the swallows come to Capistrano. They arrived after the first November cold snap and stayed until March, oblivious to the curses hurled up at them by passing pedestrians.

The Secretary of State, however, is not a man to give up easily. People joked about Ben Fortson's war with the starlings, though the damage they did wasn't funny, nor was the expense of cleaning up after them each spring.

Mr. Ben put his agile brain to work. He concocted a plan to get rid of the varmints by keeping the birds from sitting down. He stocked up on Roman candles

and one early November, he and his chosen attack team maintained a 24-hour vigil at the Capitol for four solid weeks.

They were ready on the night the starlings arrived, seemingly by the millions. Fortson and his troops cut loose with 360 Roman candles. It looked like an explosion in a fireworks factory. It looked like an Armageddon of anti-aircraft fire. It looked like Sherman was on the rampage again. The Roman candles thumped and spit red and blue fire in high-arching trails, and the starlings retreated with squawks and flaps and flutterings. Every time the birds would swoop in to roost, Mr. Ben and his men would open fire.

On the following night, the starlings came swarming in again. Again they were met by Fortson's withering Roman candle firepower. He was determined that not a single starling would find a roosting place. On the third night of the battle, only about a thousand starlings showed up. They were ruthlessly driven away by the Roman candle corps. On the fourth night, Fortson and his men searched the skies, waiting, weapons at the ready. No starlings. The hours passed, but the starlings never came. And they've never been back since.

Victor in the starling war, the Secretary of State took care of the Capitol for 14 years.

In 1971 Steve Polk, Director of Administration of the Georgia Building Authority since 1968, was given the added responsibility of managing the Capitol and its grounds. Polk, who came up through the ranks in the Georgia State Patrol to earn his captain's bars, was born and raised on a farm in Newton County.

Captain Polk says he was a pretty good farmer, but the record shows he is a top horticultural producer. In 1974 the crop of beauty he raised on the Capitol grounds won the first award ever presented to a governmental organization by the Men's Garden Clubs of America. It was the second such award ever conferred in the 44-year history of this national group of over 300 garden clubs. Their "Certificate of Meritorious Achievement" was awarded Captain Polk "for beautification of Capitol square . . . for contributing to the quality of our Nation's beauty and environment."

In January, 1975 Captain Polk was officially commended for bringing "much honor and recognition to the State of Georgia through his fine efforts to enhance the beauty of the Capitol area."

Besides enhancing the Capitol's beauty, Captain Polk supports all efforts to "bring in the school kids." He says, "We want to make their visits to the Capitol as interesting as they are educational, and as educational as they are interesting."

To this end he enlisted the consulting services of the late Bernice McCullar, distinguished Georgia educator, historian and author.

Captain Polk regards that part of his job devoted to the Capitol and its grounds with a farmer's down-to-earth directness. "We've got to look after the Capitol," he says. "After all, it belongs to Georgia's 4½ million people."

To Have More Quail

By Ron Simpson

Photography by Bob Busby



Probably more is known about management of the bobwhite quail (*Colinus virginianus*) than any other upland game species in North America. Despite this plenitude of information, relatively few Georgia landowners ever attempt to manage quail.

Most don't know how, because no practical management information has ever reached them. Others may feel quail management is too costly, in loss of productive agricultural acreage and in monetary outlay. Still others may have tried some management without any technical assistance and realized little or no increase in the number of quail during the hunting season.

Quail populations can be increased on most areas if the right habitat management practices are implemented. And this often can be accomplished at minimum cost. For advice on correct management practices, landowners should contact the Game and Fish Division. Professional wildlife biologists are avail-



able through an extension service, and their recommendations often can determine the management an area needs to produce the desired results at the least cost.

Federal cost sharing on certain wildlife management practices is available. For detailed information about a particular county, contact that county's Agricultural Stabilization and Conservation Service office.

Before discussing recommended practices, it is wise to look at the bobwhite's life history. Understanding the quail helps in understanding why certain practices are important.

The familiar "bob - bob - white" whistle, heard as early as February, is a sure sign that the breeding season is not far off. Covey break-up and pairing (the bobwhite is monogamous, one male mating with one female) starts in March. Usually there is about a 15% surplus of males, insuring that all females have a mate.

May, June, July, and August are the most important nesting months.

A few nests may be built as early as March or as late as October, but this is not the norm. Quail select nest sites where vegetative ground cover is about 50%; cover of this type offers optimum screening for nests and adequate passageways for quail movement.

If the nest is broken up, the female will usually re-nest. The number of eggs laid in a nest decreases with each new attempt: hens in Georgia lay an average of 16 eggs in nests built in April but average only 9 eggs in August nests. And contrary to many stories about multiple broods, a pair of quail will raise only one brood of chicks per year. Re-nesting occurs only if previous attempts fail.

Studies have indicated that chick mortality between hatching and 15 weeks may be as high as 50%. This loss can be reduced by habitat management practices that consider the special needs of young quail. The chick's diet must be high in protein; this is supplied through consumption

of animal matter. Management that produces an abundance of insect life at the quail's level, and which protects the feeding birds, will increase chick survival.

The annual diet of a bobwhite is comprised of 60-65% seeds, 15-20% fruits, 15% animal matter, and 5% green forage. The importance of these varies with the seasons. Peak fruit consumption occurs in the late spring and summer, when such foods are available, and consumption of animal matter is greatest in summer and fall.

The bobwhite uses a variety of different covers. In addition to the nesting cover, quail must have protective cover for feeding, roosting, loafing, and escape. One area of cover may often serve a dual role. Generally, feeding and loafing cover has grass and herbaceous vegetation which is slightly more open or sparse than roosting and escape cover.

The greatest loss of bobwhites in Georgia, excluding chicks, is during either the hunting season or the



For successful nesting, quail depend on good nesting habitat, favorable weather, and an adequate food supply.

Controlled burning is a variable technique in quail habitat management. It removes dead ground litter and encourages the growth of plants which furnish the birds food and cover.

After burning, a fresh, green understory sprouts if the forest has been properly thinned.

breeding season. Where habitat conditions are good and hunter harvest is low, spring and summer losses will equal or exceed those of the winter.

A quail population is controlled by the quality of available habitat. There can be only as many quail as the habitat will support—no more, no less. Losses from other factors such as predation, disease, and, in some cases, starvation, must occur if the excess is not harvested. Summer quail production usually exceeds the ability of the habitat to support all birds through an entire year. Natural mortality approaches 80%, so hunters should be able to harvest 30-50% of the birds without endangering next year's population.

Historically, predation and predator control usually have received considerable attention in quail management programs. But more often than not, these attempts were ineffective. As mentioned previously,

natural mortality will maintain a bobwhite population that is balanced with what the habitat can support, and predation is simply one of nature's methods of preventing overpopulation.

Predation is usually a problem only where man has changed the ecological balance. A quail population that does not exceed the habitat's carrying capacity is highly resistant to predatory pressure. Many of the quail taken by predators are those that are diseased or crippled. Although foxes, bobcats, hawks, and owls do take an occasional quail, they can actually aid the bobwhite population by taking a large number of rodents. Rodents compete with quail for food, and when the rodent population is high, they can destroy a substantial proportion of the quail nests on an area. Because this balance between predators and prey species is so complex, no control of predators should be at-

tempted without substantial reason and professional advice.

The vast majority of the habitat improvements needed for quail are related to food, cover, or both. Unmanaged land in Georgia usually produces little food and has either too much or too little cover.

The following management practices are the ones most commonly used in the Southeast. They are presented to give people interested in managing quail some knowledge of what is involved in producing more birds.

Quail habitat management is based on varying or diversifying forest, brush, grass, and cultivated land to produce the maximum amount of food and cover. However, shuffling all of these land-use types on a farm for maximum quail benefit is seldom feasible or economically justifiable. An alternative is to manage each type individually. Management practices are designed to duplicate in one





In agricultural areas, waste grain can be an important food source for quail, particularly if it is near protective cover.

habitat the same situation that exists where the different types meet or border each other.

The widespread, and probably most beneficial, management practice used in pine and low-grade hardwood stands is controlled burning. Burning removes the thick litter (pinestraw, leaves, grass, etc.) that is usually present in unburned stands, and it stimulates the germination of the leguminous plant seeds such as partridge pea, lespedeza, and butterfly pea. These are very important bobwhite foods in late winter. Insects necessary for chicks after hatching are also greatly increased by burning an area, and the cover is thinned enough so that the insects can be found by chicks.

February or early March is the best time to burn, but if hardwood undergrowth is dense, a burn delayed until the undergrowth begins to leaf out assists in controlling and reducing this problem. The frequency with which a site is burned depends on soil fertility and moisture. Average sites probably need burning once every two years, poor dry sites once every three years, and rich moist sites every year.

If all ground cover will be removed by burning, selected areas of cover should be protected from the fire. Clumps of desirable shrubs (wild plum, hawthorn, hackberry, sassafras, blackberry) 20 to 30 feet in diameter provide protective cover and should be saved. One to two

acres of broomsedge, wiregrass or various other clump-type grasses suitable for nesting should be protected for early nesting attempts. Harrowing or constructing fire-breaks will keep the burn from such areas.

If a stand of timber is so dense that direct sunlight cannot reach the ground, burning alone will be of little value. Such a stand should be thinned. Food and cover plants in the developing understory vegetation will then be able to receive the sunlight necessary for growth.

Thinning of over-stocked timber is also a beneficial forest management practice; it releases the remaining trees from an over-crowded situation and increases their growth rate. In stands where there is a long rotation period, such as saw-timber or pole timber, the forest canopy opened by a thinning will gradually be closed as the trees grow. Several thinnings are necessary during the full rotation period to maintain a productive understory.

Cover and food may also be provided by introducing various plants recognized as valuable to quail. Some of the best ones are Clemson combine pea, kobe lespedeza, Korean lespedeza, bi-color lespedeza, wild plum, and hairy vetch. Insect life, as well as seeds, are made more available to quail by many of these plantings. In fact, the quail population on some areas may actually benefit more from the insects produced and consumed by quail chicks than by the seed produced in these plantings.

The size of food patches should be at least one-fourth acre. The number of patches needed is determined by the vegetative character of the managed area and by the desires of the manager. A minimum of one cover area, planted or na-

tural, should be developed for every 10 acres of managed land.

Small openings, as well as thinings, in quality hardwood stands can be developed to increase the quail productivity in these areas. They should be about one-half acre in size and can be planted in food plants such as Clemson combine pea and partridge pea. A border strip of sercia or bi-color lespedeza about 15 feet wide can be added for cover. Again, the dictates of the land and manager will determine the number and distribution of these.

Pasture and cropland are almost always very low on cover for quail, because of heavy cattle grazing and today's "clean" farming practices. Clearing every fence-row and cleaning areas of low productivity, even when they may not be worth farming, decrease the natural diversity and the value to quail. Heavily-grazed areas are also normally low in quail benefits.

Open pasture and cropland can be made more habitable for quail

by allowing border fence-rows to revert to natural vegetation, and by developing thickets and hedge rows across the fields for cover. Quail will not use the middle of even a 20-acre pasture or field, they will use only the edges where there is protective cover.

The extent to which an area may be crossed with the thickets and hedge rows must be decided by the farm manager.

In pastures these should be plants such as wild plum and hawthorn that are seldom grazed by cattle. These plants will protect some quail food plants from grazing, as well as providing cover. Fencing of cover lanes and food patches is an effective, but costly, practice.

On cultivated land, a hedgerow or cover land can simply be a strip about 15 feet wide which is left out of cultivation. Permanent lanes can be established by leaving the same strip uncultivated for several years. Grass, shrubs, and tree species usually need only 3 to 5 years to

become established. If more rapid development and results are wanted, these strips can be planted in pine with clumps of plums, etc., at regular intervals. These clumps of protective cover add to the diversity of land barren of quail benefits.

Where cultivated land is bordered by woodland, a 15-to 20-foot strip can be left between the two. It can be planted or left to revert naturally to desirable species like beggarweed and ragweed. Sercia or bi-color lespedeza are two of the perennial species that can be established between woodland and cultivated land.

These are but a few of the practices that are beneficial to quail. Some may be more satisfactory on one area than on another. Consult Game and Fish Division biologists to determine which practice or practices to use. There may be some simple practices for small areas that are compatible with the major land-use and which will provide all the bobwhites' life requirements. 





Netmakers

By Jingle Davis

Photography by Cathy Cardarelli



Hicks Walker of Sapelo Island is one of the handful of netmakers on the Georgia coast who knows how to knit a cast net, starting from scratch with a pound ball of twine, a needle and a wooden gauge. Now in his seventies and retired, he can take time off from tending his sugar cane patch and chickens to string up a net on the small front porch of his frame house.

Like the spiders spinning their own nets in the rafters above his head, Walker's movements are swift and certain. His large, knarled hands move skillfully through the silky mesh as his dark eyes drift thoughtfully out to the sunlit pasture where a swaybacked mule is feeding. A pileated woodpecker rat-a-tat-tats from his perch in a pine tree and a dove coos sadly from the fencerow.

The remote island settlement where Walker lives is called Hog Hammock, and its people—most descendants of slaves who planted and picked cotton for Sapelo's earlier owners—have experienced a certain amount of cultural isolation from mainland America. Walker, for example, still knits all of his cast nets by hand.

He is amused by a question as to whether he profits financially from his netmaking work. He shakes his head slowly and grins, showing a wide gap where several front teeth are missing. "No, no, this no way to make money. I do it this way 'cause this the way my daddy teach me when I was thirteen years old. Maybe I make a net for a friend along and along, but nobody make no money buildin' a net this way. Not any more."

The cast nets Walker makes today are almost the same as nets made by fishermen three thousand years



ago. The materials are more sophisticated—cotton and nylon twine instead of vines and grasses; lead sinkers instead of smooth river pebbles for weights; cow bone or plastic for the net's collar instead of a slice of animal horn.

But the basic design is the same. Ancient fishermen knitted the same circle, varying the size of the mesh and the length of the net to their own needs. At the center of the cast net is a collar of bone or plastic or metal. Several dozen lines, called tucks, run from the net's weighted perimeter up through the collar, where they fasten to a swivel. The swivel attaches to one end of the hand line, while the other end is looped securely around the caster's wrist.

After the fisherman casts his net, he retrieves it by pulling the hand line. As he pulls, the tucks draw the bottom of the net inward and upward toward the collar, trapping his catch in a neat bag.

Walker says he builds his own cast nets about five and a half feet from collar to weighted foot line, but adds that his cousin, Earl, knits his nets longer. "My cousin a big man—stands about six and a half feet tall. He need a big net."

Earl Walker's nets have a diameter of fourteen feet, and measure close to fifteen yards around the circumference. If Earl makes a perfect throw—and Earl usually does—his net will blanket a hundred and fifty square feet of sea water and possibly trap a whole school of mullet.

Tracking Earl down in order to get a first-hand demonstration of his net casting prowess proved to be a bit of a problem. Earl's wife said he'd gone to Bank's to help butcher a pig. At Bank's house, it turned out that Earl had left to go by basketmaker Allen Green's place. A score of people were gathered in Green's back yard, boiling down freshly-squeezed cane juice in outdoor vats, but again, Earl had already come and gone. "Try Bennie's store," Green advised. "He not be there now, he be there 'tirectly."

Bennie Johnson's general store, the only commercial venture on Sapelo Island, is in the heart of the Hog Hammock settlement. Green knew that eventually Earl would drop by Bennie's for a cold drink and some relaxed sociability.

Sure enough, Earl arrived at Bennie's a short time later and agreed to postpone the ten speckled trout he'd caught down at the Big Hole.

"You want to see me throw a cast net? Just throw it?" he asked incredulously. "This not the right time to catch mullet."

Assured that he wasn't expected to catch any fish, Earl led the way to Sapelo's pristine beach.

Earl, as noted, is quite tall and lanky, but when he throws his cast net, he moves with a dancer's grace. In his right hand, he holds the fifty-foot coil of hand line and, with the same hand, grasps the net at a point midway down its length. Then he raises the net's skirt to his mouth, gripping the foot

line—or perhaps a lead sinker—tightly in his teeth. He slides his left hand as far as he can reach down the foot line, giving himself a triangular contact with the web of mesh and metal.

Earl swings the net across his body, twisting at the waist and bending his knees slightly. In a surge and flow of motion, he spins the net outward, timing the release of teeth and hands to a split second so the net will flare into a complete circle. Many a novice, learning to cast a heavy mullet net, has painfully loosened a few incisors by letting go with both hands but hanging doggedly on with his teeth. Casting a net well requires almost as much skill as knitting a net by hand.

Since Earl's nets are weighted with about eight pounds of lead and weigh even more when they're wet, he may be one of the world's great undiscovered olympic-class throwers.

Both Earl and Hicks say it takes several weeks to knit a cast net and even longer to build the smaller-meshed cast net for catching shrimp.

But even the largest of the Walkers' cast nets are tiny things when compared to the giant otter trawl nets pulled by Georgia's commercial shrimping fleet. These nets often range upwards of seventy feet, and if Georgia shrimpers knitted such monsters by hand, the price of shrimp would undoubtedly skyrocket.

Fortunately, there is an alternative.

O. Fulton Love Jr., who operates Georgia's largest commercial net shop, located on the banks of the Ogeechee River near Richmond Hill, said his shop probably turns out 200 to 300 nets each year. With this sort of volume, Love says hand-knitting the mesh as Walker does is out of the question.

"We buy machine-made mesh in bales from companies in Michigan and Tennessee," Love said. "My assistants and I use patterns—just like dressmaking patterns—to cut up the material. We sew up the edges, hang the net to the lines, add the weights and floats. About the only time we use a net needle is to repair a net."

Love started out as a shade-tree netmaker, building beach seines and gill nets and catfish traps. At that time, he was working as a commercial shrimper, but a bad season convinced him he could make more money building and repairing nets than he could as a fisherman.

"That was eight years ago," he says. "We've built up the business, and I guess the Ogeechee Net Shop is doing about \$200,000 of volume a year now. If everything goes well, I'll put on a truck next year and make regular calls on the shrimp docks up and down the coast, picking up and delivering nets."

After Love's nets are stitched into final shape, he dips them in vats of "Plastinet"—a greenish fluid that stiffens the net fabric and makes it more durable. "I think we're the first outfit on the Georgia coast to use the green dip," Love said. "It's far superior to the old hot tar dip. Even though the green dip runs



about eighty cents a foot and you can dip a whole net in tar for about \$20, I haven't had a single fisherman ask me to use tar dip this year."

The green dip, he said, makes the net fish better. "It doesn't hold as much water and it's easier to clean."

Love picked up a large styrofoam fishing float and threw it thirty feet up into the top of a giant net draped over a tall creosote pole. The float hung up near the top of the net.

"O.K., Shadow, get it, boy," he told his ninety-pound black Labrador retriever, and, claws clutched and muscles straining, the dog climbed straight up the fragile-looking mesh. At the top, Shadow took the float in his mouth and came bounding proudly down to his master, leaving the net entirely intact. Love had proved his point about the green dip.

Helping Georgia's commercial fishermen upgrade their industry is the job of Jack Rivers, a fisheries

specialist with the University of Georgia's Marine Extension Office in Brunswick. Rivers, a seventeen-year veteran of the National Marine Fisheries Service, probably has the best overall view of Georgia nets and netmakers. Obviously, nets are as vital as boats to the Georgians who make their living shrimping.

"With a few notable exceptions, the nets Georgians use are pretty much the same as those used in Biblical days," he said. "Fishermen tend to be traditionalists—I come from a Portuguese fishing family myself—and they usually modified their nets with small variations here and there, rather than making radical changes. But the otter trawl net, used almost exclusively by the state's commercial shrimp boats today, is a real newcomer to the net business. It's only been around about half a century."

Although otter trawls come in all sizes, the net essentially conforms to the shape of a wishbone, with wooden doors attached to the wishbone's legs. Otter-brown wooden boards called doors, angled to resist the water as the net is dragged along by twin cables from the boat's booms, spread the wings of the net. At the juncture of the wings is a purse-shaped bag, complete with drawstrings, where the shrimp are trapped. When the net is winched back on board the boat, the boat's crew—called strikers—loosens the purse strings and the catch pours out on deck.

Before the days of otter trawls, Rivers said, commercial fishermen were more or less confined to fishing with gill nets, cast nets, beach seines or purse seines. While all of these net styles are still in use today—purse seining for tuna is a multi-million dollar industry—the advent of the otter trawl after World War I probably contributed most to Georgia's commercial shrimpers.

Even the art of net repair is not commonly practiced by fishermen nowadays. "There's no incentive," Rivers said. "It's quicker to carry a spare net on a commercial boat and change nets if anything happens. Then the shrimper can get his old net repaired when he comes in to dock. The boat owners get a percentage of the boat's gross, which is earmarked for boat maintenance, engine upkeep and net repairs. The captain and strikers wouldn't make anything extra if they took up net repair. If a captain owns his boat, he might, but otherwise, he'd save the work for someone else."

Rivers said he does know how to knit a cast net by hand. "It's a lot of work, and I haven't made one for years," he said. "The last one I made took ages. It was a beautiful net. First time I took it out easting, I forgot to tie the handline to the net swivel, just like a landlubber."

He shook his head at the memory of his own carelessness. "I cast the net in about ten fathoms of water, and then stood there in my boat with tears in my eyes, watching my beautiful net sink straight to the bottom." 🐟



asis

Something providing relief from the usual: REFUGE.

By Bob Lee

Photography by Bob Busby

Of all the trials and tribulations which beset Africans brought in bondage to North America, there was one bright spot. Denied freedom, possessions and every basic human dignity by slave law, the slaves were allowed one outlet—religion, and with religion, the church.

More than a place of simple religious instructions, the Negro church quickly became central to its community. It was truly all things to all men; it had to be, it was the only thing a slave really had. It offered religion, assembly, social organization, and momentary release from a dreary existence. Here even people enslaved could express themselves, contribute to their community, learn, and most important, hope.

Today, the church becomes a necessary source of information when exploring the history of black people in America, for it was the only place they could legally record their actions. Many professions, business enterprises, and fraternal organizations among blacks owe their beginnings mainly to the progressive elements of the churches.

Early religious life of the American Negro was characterized by revival meetings. The deep religious feelings of the slaves released frenzied expressions at these meetings. When the devotee began to "feel" the spirit and was seized by this force, he became filled with animated joy, characterized by a fervor unlike anything the present-day generation has seen. Typically, it started as a low murmur or moan and gradually built

up, progressing to a kind of mad abandonment with stamping, shrieking, and shouting. There was constant rushing to and fro, waving of the arms, crying, weeping, and the state of "blind vision," best described as a trance. There was the firm belief among the blacks that without this visible manifestation of religion, there could be no sincere communication with God. There were instances when the children would laugh and make light of what they thought was funny. When caught at this mockery, they received a swift and firm hand across the mouth or the head. Whereas "shouting" would seem grotesque and funny to the child, it was an important characteristic of Negro religion.

Forced to abandon his African heritage, the slave reluctantly accepted Christianity. It was later to become a tool for survival. Religion made it possible to assemble. For years religion was the only thing the slave could call his own. Methodists and Baptists of America owe much to the silent influence of the millions of black converts. This is true in America, and it is true in Georgia, where the Negro Baptist Church had its beginning. Much of the religion of the poor whites at the turn of the 20th century was an unacknowledged imitation of black thought and methods. Gospel hymns which swept through American churches consisted largely of debased imitations of Negro melodies, made by someone who caught the jingle but not the music, the body but not the soul of the Jubilee songs.

Please turn page

Jubilee songs are usually sung by a choir or a quartet with its own unique style. The lyrics express fulfillment of hope. There is jubilation!

Walk together children don't you get weary
There's a great camp meeting in the
Promised Land.

The music of Negro religion is characterized by its plaintive, rhythmic melody, accented with cadence. Originating in African forests, where its counterpart is heard today, it was adapted, changed and intensified by the tragic soul-life of the slave. And under the stress of slave law and whip, these songs became the one true expression of a people's sorrow, hope, and despair. James Weldon Johnson developed rhythmic folklore from these hymns and captured the souls of black folks in "Lift Every Voice and Sing."

The Negro preacher is a unique personality developed on American soil: a leader, politician, orator, "boss," the center of a group of men, once small, but today numbering in the thousands. Such a man came to

Georgia in the first half of the eighteenth century. His name was George Leile.

Licensed as a probationer for two years, Leile carried the "word" to the slave quarters and the plantations on the Savannah River. Sometime before the Revolution he was liberated to preach. During this time Leile lived in Burke County with his master, Deacon Henry Sharpe. The black preacher was befriended by a British officer when the heirs to Deacon Sharpe's estate attempted to reclaim him as a slave. When the Americans recaptured Savannah in 1782 and the British were forced to evacuate, the British officer suggested Leile follow him to the West Indies, warning that if he remained, he would continue to have trouble with white Americans. Leile and some 5,000 other blacks took the journey, and he later established the First Baptist Church in Jamaica. Before leaving Savannah, Leile baptized several Negroes, including Andrew Bryan and his wife Hannah.

This was long before the 1788 date given as the founding of the Negro church in Georgia. It is difficult



The church organ at the Bryan Baptist Church. Built in 1856 by the H. Knauff Company of Philadelphia, the organ was purchased from the Independent Presbyterian Church and installed in the early 1890s.



A stained glass window in the First African Baptist Church commemorates Rev. Andrew Bryan (top) and Rev. Andrew Marshall (bottom). Rev. Marshall was a central figure in the move to a new church site in 1832. This resulted in the splitting of the congregation between the First African and what was to become the Bryan Baptist Church.

Born in 1881 in Franklin County, and one of three children, Rev. E. R. Norris is "the oldest rat in the barn." His ministerial career had the typical beginning.

His conversion into the Baptist ministry "was something I didn't want to be," he said. "God whipped me," he continues. "Put me down with pneumonia for ninety days; I surrendered to Him and said I'll do what He wants me to do. I preached to the sun and to the moon every day and night; preaching right on, just like the world was on fire. When the crisis passed, I knew this was God's calling me."

Preacher came from a line of "long-livers" and is officially retired, but is still active. He was recently recognized by the mayor as the oldest active minister in Toccoa.

"I'm just an old mud hole Baptist, and I'm glad to be a duck. God has blessed me for the state to open its heart and pass me out a little something from the taxes. I thank the Lord for that."





to accurately establish the correct order of Negro churches in America. The slaves were worshipping somewhere before 1788, and there may well have been loosely structured groups resembling a congregation, but they were not acknowledged as such until the white Association decided to recognize them.

In 1788 a white preacher from Kiokee Creek in Augusta constituted the First African Baptist Church at Brampton in Savannah and ordained Andrew Bryan as the first Negro pastor in America. Undoubtedly, Negroes had been allowed Christian worship services previously, as at Silver Bluff, South Carolina, from 1733-1750. Records show that a Reverend Samuel Thomas conducted a parish and gave religious instruction to some slaves. In addition, the plantation owner allowed David George, a slave, to conduct worship services and act as a preacher. These first halting steps led up to the organized Negro church.

During those days, the slaves were allowed "big church" only every three months, as a pass was required for them to be away from the plantation from sun-up to sun-down. It was not often that Negroes could acquire passes to get to church, as there were masters who did not follow religion very carefully themselves.

The First African Baptist Church, located at Franklin Square in Savannah. Built mostly by slaves working when their masters' allowed, the First African was the first congregation admitted to the Georgia Baptist Association in 1790.

Interior of First Africa Baptist shown at right.

In 1813 Andrew Marshall, Bryan's nephew, succeeded his uncle as pastor of the First African Baptist Church. In 1832 he led the split in the church, when the congregation moved from the original site to the present site on Franklin Square, named after Benjamin Franklin, British agent for the colony. This new site was purchased from the white Savannah Baptist Church, whose congregation moved to Chippewa Square.

Andrew Marshall was extremely popular. He was said to be a powerful and exciting preacher. The whites, after attending their own Sunday services, would often come to hear him preach, and later some of them invited him to preach in Philadelphia to raise money for a new church. He went there, but probably because of his 99 years, the long trip and the climatic change, his health

began to decline. On his way back to Savannah, he died at Richmond, Virginia.

The minority of the membership that remained at Yamaeraw, the original site of the church, made up the congregation for the newly-named Bryan Baptist Church. This small group was led by Jed Black and Adam Johnson, a member of the deacon board. Johnson previously had fought with Pastor Marshall, and after the break, kept a minority of the congregation on the original site. In May of 1790, the First African Baptist Church was admitted into the Georgia Baptist Association at its session at Brier Creek, Burke County. On April 5, 1802, the church united with the Savannah Baptist Church and the Newington Church in forming the Savannah Baptist Association. At the next statewide meeting, the Association recorded the First African as the first Negro church in the state. It recorded the Bryan Church as the third. Since that time the decision was reversed to the original site of Bryan Church. Today, the membership of the Bryan church outnumbers that of the First African.

Each church is a distinct feature of Negro history, and each can legitimately trace its beginning to 1788. The Bryan church is on its original site; that spot of

ground has supported a church since its first pastor Andrew Bryan bought the site in 1793. He built the first church there in 1794. It may be the oldest piece of real estate owned continuously by Negroes in North America.

Andrew Bryan was a slave when he did this, and he did it where Negroes were not allowed to own property outright; in fact, it was against the law. Bryan needed three upstanding white citizens from the community to serve as trustees for his purchase, but nonetheless, it was his. "It is a touching experience to look at the deed and realize that this remarkable, intelligent man, unlettered, consummated the sale with an 'X'," said W. W. Law, President of the Savannah NAACP. "However, he had been able, through his sacrifices, ingenuity, and thrift, to acquire the 15 pounds of sterling necessary to close the deal."

The First African Church is a tremendous awe-inspiring structure, completed in the early 1850s, long before freedom. Though some freemen were present, most who worked on the structure were slaves. What went into this building were their own energies and sacrifices, their hopes and dreams, their sincerity and determination.





The Bryan Baptist Church, on Bryan Street in Savannah, remains on the original site purchased by Rev. Andrew Bryan in 1793.

The men worked various jobs during the day, coming by lantern light and by candle light to work well into the dawn on the building. They did this work on their own time or for as long as the master would allow them to be away. The women brought food to the workers, carried water and gave up time with their families. Such an accomplishment, when slavery was the order of the day, spoke well for the leadership of the slaves and for the kind of community they made up.

It was not by chance that much of the Negro's early religious activity took place in Georgia. Chattel slavery was not legally practiced in Georgia until 1749. The founder of Georgia, James Oglethorpe, thought slavery against the law and gospel. So, many Negroes came to Savannah to avoid bondage and to gain employment. Following the Revolution, many more moved there as freemen or came with their masters.

There is an account in the letters published in the *Negro Journal*, written by Leile and Bryan, that an attempt was made to educate the slaves. And there was an actual accounting of members who could read and write. The Sunday school reportedly taught reading, writing, and letters. In Bryan's early correspondence with Northern whites and whites in England, he con-

stantly asked for books and other learning materials. It is clear the early Negro church was about things other than "shouting" and scripture reading. It encouraged self-help among the slaves.

Two of the three Negroes from Savannah who were elected to the Georgia House of Representatives in 1868 were members of the Bryan membership. They were James Peters and James Sims. Sims wrote the book entitled *The First Colored Baptist Church*. E. K. Love of the First African membership responded with his book, *First African Baptist Church of North America*. The books were written following the split in the congregation and both are excellent resource materials. It was at this point that the Negro church in America would begin to reap fruits from long, laborious years of shaping and molding the Afro-American into a productive part of Western culture.

Though the rule of the day was separation of church and state, this was not so for the Negro. It could not be. The church provided the teachings and tools which made self-assertion for the slave possible. It provided a stage upon which to rehearse in preparation for opening night. The opening night came three years after freedom. (E)



My Boy and I

By Dick Davis

Today my boy and I went hunting, and he enjoyed a most successful day. It was a time of triumph for him, and a time of thanksgiving on my part for having been privileged to share this important moment with him. It was also a time of reflection for both him and me.

John has grown up in a different world than the one I knew as a boy and young adult, where the woods and rivers and streams, the trees, wildlife and plants were never far from my doorway. Later, while studying forestry in college and then as a professional forester I was able to deepen my understanding of the out-of-doors in all its facets. With this basis of professional conservation work, I have been able to gain a little clearer insight into the real relationship between our God-given natural resources and our people and their needs. So I believe I know what had made possible this day of hunting sport and companionship and triumph for John and me.

Though he has always loved the out-of-doors and spent a few of his younger years in the mountains, John has known more of the metro world of the 1960s and '70s. Cars, girls, dances, rock-and-roll, proms, football and high school stardom in

the sprints were the pertinent part of his environment. His has been the life most Americans now know—cities, masses of people, skyscrapers, traffic jams, rockets soaring into outer space on TV, and people competing for living space. For John the outdoor world of woods and streams and wildlife was not as available as it was for me. Even so, he has known far more of the satisfactions and joys of outdoor life than have millions of youngsters growing up in our ghettos and concrete canyons and sprawling suburbs.

But more important than my reflections on this hunt were John's feelings, the lessons he was learning and the sense of values he was developing.

From the day we first started handling guns together, I have constantly tried to teach him gun safety and to remind him of the power—for sport or for tragedy—that he holds in his hand when carrying a rifle or shotgun. I have told him time and again that hunting is a valid and humane sport when done according to laws and regulations. Habitat destruction—not legal hunting—is the major factor limiting wildlife populations.

It has probably sounded like a stuck record as I've talked about the urgent need to protect and expand our wildlife habitat areas, to accelerate our efforts to save our

wilderness, to conserve and expand our woodlands through planned, scientific forest management and utilization, and particularly to educate our people in the need for, and methods of, conservation.

When he and I go fishing or hunting, I'm sure he has come to expect me to express disgust for the careless and unlawful littering that mars the landscape.

All of this moved through my mind when we were in the woods today—and I somehow felt that John had similar thoughts.

And something else occurred to me—something John and I have talked about during our days in the outdoors. Wouldn't it be great if every American boy—especially those in the ghettos, the high-rises and the asphalt jungles of the cities—could know the uplift of recreation in the fields and woods and on the lakes and rivers? Wouldn't that do much to help bring out the abundant good in the generations of young Americans? Wouldn't it give a fuller meaning to their lives, help bring them closer to the Almighty and to a higher destiny? For many of us, the out-of-doors has always been a sanctuary along with the church and the home. I hope I have imparted this inner feeling to John.

John and I went hunting today. Not a big thing, perhaps. But to us, a great thing.

1976 GEORGIA TIDE TABLES

This Tide Table for 1976 is furnished to you compliments of OUTDOORS IN GEORGIA for your use in coastal fishing and hunting.

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Predicted tide times and heights are shown for the Georgia coast at the bar at the Savannah River entrance. You may compute the tide times for other points listed by subtracting or adding hours and minutes as indicated. A plus time indicates a later tide and a minus time an earlier tide. Daylight saving time is not used in this table. All daily time predictions are based on Eastern Standard Time meridian. Predicted times may be converted to daylight saving time by adding one hour to these data.

These data are from the **1976 Tide Tables for the East Coast of North and South America**, National Ocean Survey, U.S. Department of Commerce, Rockville, Md. 20852.

DIFFERENCES Time			DIFFERENCES Time		
	High Water Hrs./Min.	Low Water Hrs./Min.		High Water Hrs./Min.	Low Water Hrs./Min.
GEORGIA Savannah River			Doboy and Altamaha Sounds		
Tybee Light	-0 08	-0 15	Blackbeard Cr., Blackbeard I. . .	+0 21	+0 44
Port Wentworth	+0 33	+0 41	Sapelo Island	0 00	+0 02
			Darien, Darien River	+1 10	+1 12
			Wolf Island	+0 06	+0 35
			Champney I., S. Altamaha R. . .	+1-12	+2 30
Tybee Creek and Wassaw Sound			St. Simons Sound		
Tybee Creek entrance	-0 07	+0 02	St. Simons Sound bar	+0 01	-0 05
Thunderbolt	+0 34	+0 09	St. Simons Light	+0 24	+0 28
Isle of Hope, Skidaway River . .	+0 52	+0 25	Troup Cr. entr., Mackay R. . .	+0 54	+0 49
			Brunswick, East River	+0 55	+0 40
Ossabaw Sound			St. Andrew Sound		
Egg Island	+0 06	+0 07	Jekyll Point	+0 28	+0 28
Fort McAllister, Ogeechee River	+0 50	+1 13	Jointer Island, Jointer Creek . .	+1 02	+0 49
Cane Patch Creek entrance . . .	+0 57	+0 40	Dover Bluffs, Dover Creek . . .	+0 57	+0 49
			Cumberland Wh., Cumb. R. . .	+0 40	+0 42
St. Catherines and Sapelo Sounds			Cumberland Sound		
Walburg Creek entrance	+0 25	+0 20	St. Marys Entr., north jetty . .	+0 15	+0 15
Kilkenny Club, Kilkenny Creek .	+0 31	+0 13	Crooked River entrance	+1 23	+1 12
Sunbury, Medway River	+0 56	+0 42	Harritts Bluff, Crooked River . .	+2 09	+2 12
Blackbeard Island	+0 20	+0 19	St. Marys, St. Marys River . . .	+1 21	+1 13
Mud R., at Old Teakettle Cr. . .	+0 47	+0 43			

SAVANNAH RIVER ENTRANCE, GA., 1976

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JANUARY						FEBRUARY						MARCH					
OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.
	H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.
1	0122	-1.1	16	0057	-0.9	1	0238	-0.9	16	0216	-1.6	1	0214	-0.6	16	0157	-1.7
TH	0749	8.0	F	0707	7.6	SU	0853	7.2	M	0816	8.0	M	0823	7.0	TU	0757	8.1
	1404	-0.8		1333	-0.5		1507	-0.8		1441	-1.4		1436	-0.6		1416	-1.6
	1959	6.8		1928	6.6		2059	6.7		2042	7.7		2032	7.0		2025	8.4
2	0212	-1.0	17	0147	-1.1	2	0318	-0.7	17	0305	-1.7	2	0251	-0.6	17	0249	-1.7
F	0832	7.8	SA	0750	7.8	M	0925	6.9	TU	0902	7.9	TU	0856	6.8	W	0844	8.0
	1450	-0.8		1420	-0.8		1543	-0.7		1527	-1.5		1512	-0.6		1504	-1.6
	2043	6.8		2011	6.8		2134	6.6		2129	7.8		2105	7.0		2113	8.5
3	0259	-0.8	18	0234	-1.3	3	0355	-0.5	18	0355	-1.6	3	0329	-0.4	18	0339	-1.6
SA	0913	7.5	SU	0833	7.9	TU	1000	6.7	W	0950	7.7	W	0926	6.6	TH	0932	7.8
	1533	-0.7		1504	-1.0		1620	-0.5		1614	-1.5		1547	-0.4		1553	-1.5
	2125	6.6		2057	7.0		2211	6.5		2221	7.7		2137	6.9		2203	8.3
4	0341	-0.6	19	0321	-1.3	4	0434	-0.2	19	0445	-1.3	4	0403	-0.2	19	0431	-1.3
SU	0954	7.2	M	0919	7.8	W	1034	6.4	TH	1040	7.4	TH	0957	6.4	F	1024	7.4
	1613	-0.5		1549	-1.1		1657	-0.3		1703	-1.2		1621	-0.2		1643	-1.3
	2206	6.5		2147	7.1		2251	6.4		2317	7.5		2213	6.8		2259	7.9
5	0424	-0.3	20	0410	-1.2	5	0512	0.1	20	0539	-0.9	5	0440	0.0	20	0522	-0.9
M	1034	6.8	TU	1006	7.6	TH	1109	6.1	F	1135	6.9	F	1031	6.2	SA	1117	6.9
	1655	-0.3		1635	-1.1		1736	-0.1		1754	-0.9		1657	0.0		1736	-0.7
	2248	6.3		2237	7.1		2330	6.3					2251	6.7		2357	7.5
6	0504	0.0	21	0501	-1.0	6	0554	0.4	21	0015	7.2	6	0517	0.3	21	0620	-0.4
TU	1112	6.5	W	1058	7.3	F	1149	5.8	SA	0638	-0.5	SA	1109	5.9	SU	1215	6.5
	1736	-0.1		1724	-1.0		1818	0.1		1231	6.5		1737	0.2		1834	-0.2
	2330	6.2		2333	7.1					1854	-0.5		2333	6.5			
7	0549	0.4	22	0556	-0.7	7	0013	6.2	22	0116	6.9	7	0602	0.6	22	0100	7.1
W	1154	6.1	TH	1151	7.0	SA	0641	0.6	SU	0743	-0.1	SU	1151	5.7	M	0721	0.0
	1818	0.1		1817	-0.8		1231	5.6		1334	6.1		1821	0.4		1319	6.2
							1907	0.3		1959	-0.2					1939	0.2
8	0015	6.1	23	0031	7.0	8	0103	6.1	23	0224	6.7	8	0021	6.4	23	0204	6.7
TH	0636	0.6	F	0655	-0.4	SU	0735	0.8	M	0850	0.1	M	0651	0.8	TU	0827	0.3
	1236	5.9		1250	6.6		1321	5.4		1441	5.9		1242	5.6		1425	6.0
	1906	0.3		1916	-0.6		2001	0.4		2108	-0.1		1916	0.6		2047	0.3
9	0102	6.0	24	0135	6.9	9	0155	6.1	24	0337	6.6	9	0114	6.3	24	0314	6.5
F	0729	0.8	SA	0802	-0.1	M	0836	0.9	TU	0953	0.1	TU	0753	0.9	W	0930	0.3
	1321	5.7		1350	6.2		1417	5.3		1553	5.8		1337	5.5		1535	6.0
	1956	0.4		2019	-0.5		2058	0.3		2209	-0.2		2019	0.5		2151	0.3
10	0151	6.0	25	0242	6.8	10	0255	6.2	25	0446	6.7	10	0212	6.4	25	0420	6.5
SA	0827	0.9	SU	0908	-0.1	TU	0937	0.7	W	1051	0.0	W	0858	0.8	TH	1026	0.2
	1411	5.5		1455	6.0		1517	5.4		1700	6.0		1440	5.6		1639	6.2
	2050	0.3		2124	-0.5		2156	0.1		2308	-0.3		2122	0.3		2249	0.2
11	0246	6.1	26	0353	6.8	11	0356	6.4	26	0545	6.9	11	0317	6.5	26	0521	6.6
SU	0924	0.8	M	1012	-0.1	W	1033	0.4	TH	1145	-0.2	TH	0959	0.5	F	1116	0.0
	1508	5.4		1607	5.9		1622	5.6		1758	6.3		1549	5.9		1734	6.5
	2143	0.2		2226	-0.6		2251	-0.3					2221	-0.1		2339	0.0
12	0343	6.3	27	0502	7.0	12	0459	6.7	27	0000	-0.5	12	0425	6.8	27	0606	6.7
M	1017	0.6	TU	1110	-0.3	TH	1126	0.0	F	0635	7.0	F	1054	0.0	SA	1203	-0.1
	1605	5.5		1715	6.1		1723	6.0		1232	-0.4		1657	6.4		1819	6.8
	2233	0.0		2323	-0.7		2345	-0.7		1844	6.6		2318	-0.6			
13	0441	6.5	28	0600	7.2	13	0555	7.2	28	0048	-0.6	13	0525	7.2	28	0025	-0.2
TU	1107	0.4	W	1206	-0.5	F	1218	-0.4	SA	0715	7.1	SA	1148	-0.5	SU	0648	6.8
	1705	5.7		1811	6.3		1819	6.5		1317	-0.5		1755	7.1		1244	-0.3
	2322	-0.3								1923	6.8					1856	7.1
14	0534	6.9	29	0016	-0.8	14	0036	-1.1	29	0132	-0.7	14	0012	-1.0	29	0107	-0.3
W	1158	0.1	TH	0651	7.4	SA	0645	7.6	SU	0751	7.1	SU	0619	7.6	M	0723	6.9
	1756	5.9		1256	-0.6		1307	-0.8		1358	-0.6		1237	-0.9		1325	-0.4
				1901	6.5		1908	7.0		1958	6.9		1848	7.7		1930	7.2
15	0011	-0.6	30	0106	-0.9	15	0127	-1.4				15	0106	-1.4	30	0147	-0.3
TH	0624	7.3	F	0734	7.4	SU	0731	7.9				M	0707	8.0	TU	0755	6.8
	1247	-0.2		1343	-0.8		1355	-1.2					1328	-1.3		1403	-0.4
	1843	6.3		1943	6.6		1954	7.4					1936	8.1		2002	7.3
			31	0153	-0.9										31	0226	-0.3
			SA	0815	7.4										W	0825	6.7
				1427	-0.8											1439	-0.3
				2023	6.7											2033	7.3

TIME MERIDIAN 75° W. 0000 IS MIDNIGHT. 1200 IS NOON.
 HEIGHTS ARE RECKONED FROM THE DATUM OF SOUNDINGS ON CHARTS OF THE LOCALITY WHICH IS MEAN LOW WATER.

SAVANNAH RIVER ENTRANCE, GA., 1976

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

APRIL						MAY						JUNE					
OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.
	H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.
1 TH	0302 0855 1514 2105	-0.2 6.6 -0.2 7.3	16 F	0323 0915 1533 2147	-1.5 7.7 -1.3 8.6	1 SA	0313 0858 1521 2115	0.1 6.3 0.1 7.5	16 SU	0357 0950 1605 2221	-1.1 7.1 -0.8 8.1	1 TU	0410 0955 1619 2213	0.1 6.2 0.1 7.4	16 W	0512 1114 1722 2337	-0.5 6.5 0.1 6.9
2 F	0337 0926 1549 2140	-0.1 6.4 0.0 7.2	17 SA	0414 1006 1622 2241	-1.2 7.3 -0.9 8.1	2 SU	0350 0933 1557 2152	0.2 6.2 0.2 7.3	17 M	0448 1043 1656 2316	-0.7 6.8 -0.3 7.6	2 -W	0451 1042 1704 2303	0.1 6.3 0.2 7.3	17 TH	0559 1204 1813	-0.2 6.4 0.5
3 SA	0413 0958 1624 2217	0.1 6.2 0.2 7.1	18 SU	0504 1101 1717 2338	-0.8 6.9 -0.5 7.6	3 M	0429 1011 1638 2235	0.3 6.1 0.3 7.2	18 TU	0538 1141 1750	-0.4 6.5 0.1	3 TH	0536 1136 1759 2355	0.1 6.4 0.3 7.1	18 F	0026 0647 1254 1905	6.5 0.1 6.3 0.8
4 SU	0450 1035 1703 2259	0.4 6.0 0.4 6.9	19 M	0600 1200 1813	-0.3 6.5 0.0	4 TU	0511 1058 1721 2324	0.4 6.0 0.5 7.1	19 W	0012 0630 1236 1847	7.1 0.0 6.3 0.5	4 F	0627 1234 1858	0.0 6.6 0.4	19 SA	0113 0736 1342 2003	6.2 0.2 6.3 1.0
5 M	0531 1120 1749 2349	0.6 5.9 0.5 6.8	20 TU	0038 0700 1300 1916	7.1 0.1 6.3 0.5	5 W	0557 1149 1815	0.5 6.1 0.6	20 TH	0106 0726 1332 1948	6.6 0.2 6.2 0.8	5 SA	0050 0724 1334 2005	7.0 -0.1 6.8 0.3	20 SU	0201 0827 1433 2059	5.9 0.3 6.3 1.0
6 TU	0618 1212 1841	0.8 5.8 0.7	21 W	0140 0800 1404 2021	6.7 0.3 6.1 0.7	6 TH	0015 0650 1249 1919	7.0 0.5 6.2 0.6	21 F	0158 0820 1428 2047	6.3 0.3 6.2 0.9	6 SU	0150 0825 1437 2109	6.8 -0.3 7.1 0.1	21 M	0251 0917 1523 2152	5.8 0.3 6.4 0.9
7 W	0041 0718 1308 1945	6.7 0.8 5.9 0.7	22 TH	0241 0900 1505 2123	6.5 0.4 6.2 0.7	7 F	0113 0752 1352 2027	6.9 0.4 6.5 0.5	22 SA	0254 0914 1521 2143	6.1 0.3 6.4 0.8	7 M	0252 0926 1543 2212	6.8 -0.5 7.5 -0.2	22 TU	0345 1004 1617 2242	5.7 0.2 6.6 0.8
8 TH	0140 0822 1413 2052	6.7 0.7 6.1 0.5	23 F	0342 0953 1605 2219	6.3 0.3 6.3 0.6	8 SA	0214 0854 1458 2132	6.9 0.1 6.8 0.1	23 SU	0349 1001 1617 2233	6.0 0.2 6.6 0.7	8 TU	0358 1023 1649 2311	6.8 -0.8 7.9 -0.5	23 W	0438 1052 1707 2329	5.7 0.1 6.9 0.6
9 F	0242 0924 1520 2156	6.7 0.4 6.4 0.1	24 SA	0441 1041 1700 2308	6.3 0.2 6.6 0.4	9 SU	0320 0953 1604 2233	6.9 -0.3 7.3 -0.3	24 M	0441 1046 1703 2320	6.0 0.1 6.8 0.5	9 W	0502 1120 1748	6.9 -1.0 8.3	24 TH	0529 1136 1752	5.8 0.0 7.2
10 SA	0351 1023 1630 2255	6.9 -0.1 7.0 -0.4	25 SU	0530 1126 1745 2355	6.4 0.0 6.9 0.2	10 M	0425 1049 1707 2330	7.1 -0.7 7.9 -0.7	25 TU	0529 1130 1747	6.1 0.0 7.1	10 TH	0008 0603 1216 1845	-0.8 7.0 -1.2 8.5	25 F	0016 0614 1222 1835	0.4 5.9 -0.1 7.4
11 SU	0454 1116 1730 2351	7.2 -0.6 7.6 -0.9	26 M	0612 1208 1824	6.5 -0.1 7.2	11 TU	0526 1142 1806	7.3 -1.1 8.4	26 W	0004 0611 1211 1827	0.3 6.1 -0.1 7.3	11 F	0104 0659 1309 1936	-1.0 7.1 -1.2 8.6	26 SA	0101 0656 1307 1914	0.2 6.1 -0.2 7.6
12 M	0552 1209 1825	7.6 -1.0 8.2	27 TU	0037 0648 1248 1900	0.1 6.5 -0.2 7.4	12 W	0025 0622 1237 1859	-1.0 7.5 -1.3 8.8	27 TH	0048 0648 1253 1904	0.2 6.2 -0.1 7.5	12 SA	0157 0751 1404 2025	-1.1 7.2 -1.2 8.5	27 SU	0144 0734 1349 1953	0.0 6.2 -0.3 7.7
13 TU	0046 0645 1301 1917	-1.3 7.9 -1.4 8.7	28 W	0118 0722 1328 1933	0.0 6.6 -0.2 7.5	13 TH	0120 0715 1329 1950	-1.3 7.6 -1.4 8.9	28 F	0130 0725 1334 1939	0.1 6.2 -0.1 7.6	13 SU	0250 0842 1455 2114	-1.1 7.1 -1.0 8.3	28 M	0227 0813 1434 2031	-0.1 6.3 -0.3 7.8
14 W	0139 0736 1352 2006	-1.5 8.0 -1.5 8.9	29 TH	0159 0754 1406 2006	-0.1 6.5 -0.2 7.6	14 F	0214 0806 1422 2039	-1.3 7.6 -1.3 8.8	29 SA	0211 0759 1416 2015	0.1 6.2 -0.1 7.6	14 M	0339 0932 1546 2203	-1.0 6.9 -0.7 7.9	29 TU	0307 0854 1516 2113	-0.2 6.5 -0.3 7.7
15 TH	0231 0825 1442 2055	-1.6 7.9 -1.5 8.8	30 F	0237 0826 1443 2039	0.0 6.4 -0.1 7.5	15 SA	0307 0857 1514 2130	-1.3 7.4 -1.1 8.5	30 SU	0250 0836 1455 2051	0.0 6.2 -0.1 7.6	15 TU	0426 1023 1634 2251	-0.7 6.7 -0.3 7.4	30 W	0349 0939 1602 2157	-0.3 6.6 -0.3 7.6
									31 M	0329 0913 1536 2131	0.0 6.2 0.0 7.5						

TIME MERIDIAN 75° W. 0000 IS MIDNIGHT. 1200 IS NOON.
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SAVANNAH RIVER ENTRANCE, GA., 1976

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JULY						AUGUST						SEPTEMBER					
OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.
	H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.
1 TH	0432 1027 1648 2244	-0.4 6.7 -0.2 7.5	16 F	0521 1125 1736 2340	-0.2 6.6 0.5 6.5	1 SU	0544 1159 1823	-0.6 7.5 0.1	16 M	0605 1205 1828	0.5 6.7 1.3	1 W	0058 0724 1350 2017	6.8 0.2 7.6 0.7	16 TH	0023 0700 1258 1937	6.1 1.2 6.9 1.8
2 F	0516 1121 1741 2336	-0.4 6.8 0.0 7.2	17 SA	0605 1207 1823 2340	0.1 6.5 0.8 6.5	2 M	0013 0639 1300 1927	7.1 -0.4 7.4 0.3	17 TU	0018 0650 1252 1921	6.1 0.8 6.7 1.5	2 TH	0203 0832 1500 2124	6.6 0.4 7.5 0.7	17 F	0119 0800 1357 2042	6.1 1.3 6.9 1.7
3 SA	0605 1217 1839	-0.4 7.0 0.2	18 SU	0023 0649 1252 1915	6.2 0.3 6.4 1.1	3 TU	0112 0741 1403 2034	6.7 -0.2 7.4 0.4	18 W	0103 0743 1343 2022	5.9 0.9 6.6 1.5	3 F	0316 0938 1612 2225	6.5 0.4 7.5 0.6	18 SA	0220 0901 1458 2140	6.1 1.1 7.1 1.4
4 SU	0029 0702 1316 1944	7.0 -0.4 7.1 0.2	19 M	0107 0739 1341 2011	5.9 0.4 6.4 1.2	4 W	0215 0846 1511 2140	6.5 -0.1 7.4 0.4	19 TH	0159 0840 1439 2122	5.8 0.9 6.7 1.4	4 SA	0426 1038 1715 2319	6.6 0.2 7.7 0.3	19 SU	0327 1000 1601 2234	6.4 0.8 7.4 0.9
5 M	0128 0801 1418 2051	6.8 -0.4 7.3 0.2	20 TU	0156 0830 1432 2108	5.7 0.5 6.4 1.2	5 TH	0324 0951 1623 2241	6.4 -0.2 7.6 0.2	20 F	0258 0937 1539 2217	5.8 0.7 6.9 1.2	5 SU	0529 1134 1808	6.9 0.1 7.9	20 M	0430 1054 1700 2324	6.8 0.4 7.7 0.4
6 TU	0230 0903 1527 2155	6.6 -0.5 7.5 0.0	21 W	0249 0924 1527 2201	5.6 0.5 6.6 1.1	6 F	0436 1050 1726 2337	6.5 -0.3 7.8 0.0	21 SA	0404 1030 1639 2310	6.0 0.5 7.2 0.8	6 M	0009 0620 1224 1853	0.1 7.3 0.0 8.0	21 TU	0529 1147 1752	7.4 -0.1 8.1
7 W	0338 1005 1633 2255	6.5 -0.6 7.7 -0.2	22 TH	0346 1013 1623 2254	5.6 0.3 6.8 0.9	7 SA	0540 1147 1823	6.7 -0.4 8.0	22 SU	0505 1123 1732 2358	6.3 0.2 7.6 0.4	7 TU	0054 0705 1311 1931	-0.1 7.5 -0.1 7.9	22 W	0012 0621 1238 1840	-0.1 8.0 -0.4 8.5
8 TH	0446 1103 1737 2352	6.5 -0.8 8.0 -0.4	23 F	0446 1102 1715 2342	5.7 0.2 7.1 0.6	8 SU	0030 0635 1240 1910	-0.3 7.0 -0.5 8.1	23 M	0558 1212 1822	6.8 -0.2 8.0	8 W	0138 0742 1354 2007	-0.1 7.7 0.0 7.8	23 TH	0101 0710 1329 1928	-0.5 8.5 -0.7 8.7
9 F	0550 1200 1832	6.7 -0.9 8.2	24 SA	0539 1151 1805	6.0 0.0 7.4	9 M	0120 0723 1331 1954	-0.4 7.2 -0.5 8.1	24 TU	0045 0646 1301 1907	0.0 7.3 -0.5 8.3	9 TH	0217 0817 1435 2040	-0.2 7.7 0.1 7.6	24 F	0149 0757 1420 2014	-0.8 8.9 -0.8 8.7
10 SA	0048 0646 1255 1924	-0.6 6.9 -0.9 8.3	25 SU	0030 0627 1237 1849	0.3 6.3 -0.2 7.7	10 TU	0206 0806 1417 2033	-0.5 7.3 -0.4 7.9	25 W	0130 0730 1350 1950	-0.3 7.7 -0.7 8.5	10 F	0257 0853 1513 2112	-0.1 7.7 0.3 7.4	25 SA	0236 0844 1510 2101	-0.9 9.0 -0.8 8.5
11 SU	0140 0738 1348 2011	-0.8 7.0 -0.9 8.2	26 M	0115 0710 1325 1932	0.0 6.6 -0.4 8.0	11 W	0249 0846 1501 2110	-0.5 7.3 -0.2 7.6	26 TH	0217 0817 1440 2033	-0.6 8.1 -0.8 8.5	11 SA	0331 0926 1550 2144	0.1 7.6 0.5 7.1	26 SU	0324 0933 1600 2150	-0.9 9.0 -0.6 8.1
12 M	0230 0826 1438 2054	-0.8 7.0 -0.8 8.0	27 TU	0201 0752 1411 2012	-0.2 6.9 -0.6 8.1	12 TH	0329 0924 1541 2147	-0.4 7.2 0.0 7.3	27 F	0301 0903 1528 2121	-0.8 8.3 -0.7 8.3	12 SU	0408 1000 1627 2216	0.3 7.4 0.8 6.8	27 M	0414 1027 1653 2245	-0.7 8.7 -0.2 7.7
13 TU	0316 0912 1525 2138	-0.8 7.0 -0.5 7.7	28 W	0243 0837 1500 2055	-0.5 7.1 -0.6 8.1	13 F	0406 1003 1621 2219	-0.2 7.1 0.3 7.0	28 SA	0347 0952 1618 2208	-0.9 8.3 -0.5 8.0	13 M	0445 1040 1706 2251	0.6 7.3 1.1 6.6	28 TU	0504 1125 1749 2343	-0.3 8.3 0.2 7.3
14 W	0358 0954 1608 2219	-0.7 6.9 -0.2 7.3	29 TH	0326 0921 1546 2139	-0.6 7.3 -0.6 8.0	14 SA	0445 1042 1701 2256	0.0 7.0 0.6 6.7	29 SU	0434 1045 1709 2259	-0.7 8.2 -0.2 7.6	14 TU	0524 1122 1749 2336	0.8 7.1 1.4 6.3	29 W	0602 1228 1852	0.2 8.0 0.6
15 TH	0440 1040 1653 2301	-0.5 6.7 0.1 6.9	30 F	0410 1010 1635 2226	-0.7 7.4 -0.4 7.7	15 SU	0522 1122 1741 2336	0.3 6.8 1.0 6.4	30 M	0525 1143 1807 2357	-0.5 8.0 0.2 7.2	15 W	0607 1209 1841	1.1 7.0 1.6	30 TH	0046 0705 1335 1958	6.9 0.6 7.6 0.9
			31 SA	0456 1103 1725 2317	-0.7 7.5 -0.2 7.4				31 TU	0620 1244 1910	-0.1 7.8 0.5						

TIME MERIDIAN 75° W. 0000 IS MIDNIGHT. 1200 IS NOON.

HEIGHTS ARE RECKONED FROM THE DATUM OF SOUNDINGS ON CHARTS OF THE LOCALITY WHICH IS MEAN LOW WATER.

SAVANNAH RIVER ENTRANCE, GA., 1976

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

OCTOBER						NOVEMBER						DECEMBER					
OAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.	DAY	TIME	HT.	OAY	TIME	HT.	OAY	TIME	HT.
	H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.		H.M.	FT.
1	0152	6.7	16	0046	6.3	1	0345	6.8	16	0224	6.9	1	0401	6.6	16	0304	7.2
F	0815	0.8	SA	0721	1.3	M	0957	0.9	TU	0901	0.6	W	1015	0.8	TH	0938	0.0
	1445	7.4		1321	7.1		1620	7.0		1447	7.1		1628	6.2		1522	6.7
	2103	0.9		2001	1.5		2223	0.5		2124	0.3		2233	0.3		2153	-0.6
2	0304	6.7	17	0149	6.4	2	0441	7.1	17	0330	7.3	2	0450	6.8	17	0412	7.5
SA	0922	0.8	SU	0827	1.2	TU	1049	0.8	W	1002	0.2	TH	1103	0.7	F	1039	-0.3
	1552	7.4		1421	7.2		1713	7.0		1551	7.3		1716	6.3		1628	6.8
	2201	0.7		2103	1.2		2309	0.4		2220	-0.2		2316	0.1		2252	-0.9
3	0410	6.8	18	0253	6.7	3	0530	7.3	18	0434	7.8	3	0535	7.1	18	0516	8.0
SU	1022	0.7	M	0931	0.9	W	1137	0.6	TH	1100	-0.2	F	1149	0.5	SA	1137	-0.7
	1652	7.5		1521	7.4		1755	7.1		1653	7.5		1800	6.4		1731	7.0
	2255	0.5		2159	0.7		2353	0.2		2315	-0.7					2347	-1.2
4	0510	7.1	19	0359	7.2	4	0611	7.6	19	0534	8.4	4	0000	0.0	19	0616	8.3
M	1115	0.5	TU	1028	0.4	TH	1220	0.5	F	1155	-0.6	SA	0616	7.3	SU	1234	-0.9
	1743	7.6		1623	7.7		1835	7.1		1750	7.8		1232	0.4		1830	7.2
	2342	0.3		2252	0.2								1837	6.4			
5	0559	7.5	20	0503	7.8	5	0034	0.1	20	0008	-1.0	5	0043	-0.1	20	0044	-1.4
TU	1202	0.4	W	1123	-0.1	F	0646	7.8	SA	0630	8.8	SU	0653	7.4	M	0709	8.6
	1828	7.7		1722	8.0		1302	0.4		1251	-0.9		1315	0.3		1328	-1.1
				2342	-0.3		1909	7.1		1845	7.9		1913	6.4		1922	7.4
6	0025	0.2	21	0555	8.4	6	0113	0.1	21	0101	-1.2	6	0122	-0.1	21	0138	-1.5
W	0641	7.7	TH	1216	-0.5	SA	0722	7.9	SU	0722	9.1	M	0800	7.5	TU	0800	8.6
	1248	0.3		1814	8.3		1341	0.4		1344	-1.0		1355	0.2		1422	-1.2
	1906	7.7					1941	7.0		1936	8.0		1948	6.4		2015	7.4
7	0106	0.1	22	0032	-0.7	7	0152	0.1	22	0155	-1.3	7	0203	-0.1	22	0231	-1.4
TH	0715	7.9	F	0648	9.0	SU	0754	7.9	M	0812	9.1	TU	0805	7.6	W	0850	8.4
	1329	0.3		1309	-0.8		1420	0.4		1437	-1.0		1435	0.2		1512	-1.2
	1938	7.6		1904	8.5		2013	6.9		2028	7.9		2021	6.4		2106	7.3
8	0146	0.1	23	0122	-1.0	8	0229	0.2	23	0247	-1.2	8	0242	-0.1	23	0322	-1.2
F	0750	8.0	SA	0738	9.3	M	0827	7.8	TU	0904	8.9	W	0840	7.5	TH	0940	8.1
	1409	0.3		1401	-0.9		1458	0.5		1530	-0.9		1512	0.2		1602	-1.0
	2010	7.4		1954	8.5		2042	6.7		2119	7.6		2054	6.3		2155	7.1
9	0223	0.1	24	0213	-1.1	9	0306	0.3	24	0338	-0.9	9	0321	0.0	24	0413	-0.9
SA	0822	8.0	SU	0827	9.4	TU	0901	7.7	W	0956	8.6	TH	0917	7.5	F	1029	7.7
	1446	0.5		1454	-0.9		1534	0.7		1620	-0.7		1551	0.3		1648	-0.8
	2040	7.3		2042	8.3		2117	6.6		2214	7.3		2133	6.3		2248	6.8
10	0300	0.3	25	0303	-1.0	10	0343	0.5	25	0432	-0.5	10	0400	0.1	25	0459	-0.5
SU	0854	7.9	M	0917	9.2	W	0938	7.6	TH	1051	8.1	F	0955	7.3	SA	1118	7.2
	1523	0.6		1546	-0.7		1614	0.8		1712	-0.3		1631	0.3		1736	-0.5
	2111	7.0		2134	8.0		2152	6.4		2312	7.0		2217	6.3		2339	6.6
11	0335	0.5	26	0355	-0.7	11	0423	0.6	26	0524	-0.1	11	0444	0.2	26	0551	0.0
M	0927	7.7	TU	1011	8.8	TH	1018	7.4	F	1148	7.6	SA	1039	7.2	SU	1209	6.7
	1559	0.9		1638	-0.3		1651	1.0		1806	0.0		1712	0.3		1823	-0.1
	2144	6.8		2229	7.6		2235	6.3					2304	6.3			
12	0411	0.7	27	0448	-0.3	12	0504	0.8	27	0010	6.7	12	0531	0.3	27	0031	6.4
TU	1003	7.6	W	1109	8.4	F	1101	7.3	SA	0621	0.4	SU	1127	7.1	M	0644	0.4
	1635	1.1		1733	0.1		1736	1.1		1243	7.1		1758	0.3		1255	6.3
	2221	6.6		2328	7.2		2325	6.3		1902	0.3		2358	6.5		1916	0.1
13	0448	0.9	28	0544	0.2	13	0553	0.9	28	0108	6.5	13	0626	0.4	28	0121	6.2
W	1045	7.4	TH	1210	7.9	SA	1151	7.2	SU	0723	0.7	M	1221	6.9	TU	0741	0.7
	1717	1.4		1831	0.5		1826	1.1		1342	6.7		1851	0.2		1345	5.9
	2302	6.4								1959	0.4					2009	0.2
14	0530	1.1	29	0031	6.9	14	0021	6.4	29	0206	6.5	14	0055	6.6	29	0214	6.1
TH	1130	7.2	F	0647	0.6	SU	0651	1.0	M	0825	0.9	TU	0727	0.4	W	0837	0.8
	1803	1.5		1313	7.5		1247	7.1		1438	6.5		1317	6.8		1437	5.7
	2349	6.3		1936	0.7		1924	1.0		2053	0.5		1951	0.0		2100	0.3
15	0621	1.3	30	0136	6.7	15	0121	6.5	30	0304	6.5	15	0159	6.9	30	0309	6.1
F	1225	7.1	SA	0754	0.9	M	0756	0.9	TU	0924	0.9	W	0834	0.3	TH	0936	0.8
	1858	1.6		1418	7.2		1347	7.1		1533	6.3		1417	6.7		1532	5.6
				2036	0.8		2024	0.7		2145	0.4		2053	-0.2		2151	0.2
			31	0241	6.7										31	0402	6.3
			SU	0859	1.0										F	1025	0.7
				1520	7.0											1628	5.6
				2132	0.7											2239	0.1

TIME MERIDIAN 75° W. 0000 IS MIDNIGHT. 1200 IS NOON.
 HEIGHTS ARE RECKONED FROM THE DATUM OF SOUNDINGS ON CHARTS OF THE LOCALITY WHICH IS MEAN LOW WATER.

Sportsman's Calendar



SMALL GAME

FOX—No closed season, statewide; No bag limit. Electronic calls may not be used.

BOBCAT—Sept. 15-Feb. 28, statewide; No bag limit. Electronic calls may not be used.

GROUSE—Oct. 18-Feb. 28 statewide; bag limit 3 daily.

OPOSSUM—Oct. 18-Feb. 28, in Game Zones I & IA, no bag limit. No closed season in Game Zones II, III, IV, V, and VI, no bag limit.

QUAIL—Nov. 20-Feb. 28, statewide; daily bag limit 12, (Possession 36)

RABBIT—Nov. 20-Feb. 28, statewide; daily bag limit 10.

RACCOON—Oct. 18-Feb. 28 in Game Zones I and IA; daily bag limit 1. No closed season in Game Zones II, III, IV, V and VI, no bag limit.

SQUIRREL—Sept. 15-Feb. 28 in Game Zones I and IA; bag limit 10. Oct. 15-Feb. 28 in Game Zones II, III, IV, V and VI, bag limit 10.

WATERFOWL SEASON

DUCKS: Nov. 19 through Dec. 3, 1975
Dec. 17, 1975, through Jan. 20, 1976
Shooting hours begin at noon, Nov. 19 and Dec. 17, respectively. All other days during the season — ½ hour before sunrise to sunset.

5 daily; 10 in possession

Wood ducks — 2 daily, 4 in possession

Black ducks — 1 daily, 2 in possession

Season closed on Canvasbacks, Redheads and Canada Geese

EXTRA SCAUP LIMIT: In addition to regular duck bag, an extra 2 daily and 4 in possession may be taken throughout the season east (seaward) of Intracoastal Waterway in Chatham, Bryan, Liberty, McIntosh, Glynn and Camden Counties.

EXTRA BLUE-WINGED TEAL LIMIT: For nine (9) consecutive days, Nov. 19 through Nov. 27, 1975, 2 daily and 4 in possession in addition to the regular duck bag.

COOTS: Nov. 19 through Dec. 3, 1975

Dec. 17, 1975, through Jan. 20, 1976

15 daily; 30 in possession

GALLINULES: Nov. 19 through Jan. 20, 1976

15 daily; 30 in possession

MERGANSERS: Nov. 19 through Dec. 3, 1975

Dec. 17 through Jan. 20, 1976

5 daily; 10 in possession

Except Hooded Merganser — 1 daily; 2 in possession

SEA DUCKS: (Scoters, Eiders, Old Squaws)

Nov. 19 through Jan. 20, 1976

7 daily; 14 in possession

Singly or in the aggregate

SNOW GEESE: (Including Blue Geese)

Dec. 22 through Jan. 20, 1976

2 daily; 4 in possession

ATLANTIC BRANT: Dec. 22 through Jan. 20, 1976

4 daily; 8 in possession

Shooting hours on Nov. 19 and Dec. 17, 1975, for all ducks, coots, mergansers and gallinules shall be from 12 noon until sunset, local time. All other shooting hours shall be from ½ hour before sunrise to sunset daily.

MIGRATORY BIRDS

SNIPE: Nov. 20 through Jan. 23, 1976

8 daily; 16 in possession

WOODCOCK: Nov. 20 - Jan. 23, 1976

5 daily; 10 in possession



Letters to the Editor

I want to register my concern too, that this fine magazine not continue in its swing toward being another "Seenie South." The editors appear to have said: "Let's change it the way we want it." Photography and one page, frameable pictures are appreciated!

Robert M. Cash

With reference to Crumbly's letter in the November issue, I am neither a hunter nor a fisherman, and yet I subscribe to your magazine and like it because it has other articles than those on hunting and fishing (which I never read). I like it because it has other articles on the outdoors, which makes it true to its name. When it should have nothing but hunting and fishing in it, then I cease to subscribe.

E. M. Coulter
Athens, GA

I have just completed reading the November issue of *Outdoors in Georgia* and compliment your staff on one of your finest issues in recent months. It reminds me of the old days when *Outdoors in Georgia* was full of articles of interest to the Georgia outdoor sportsman.

I became a subscriber of *Outdoors in Georgia* years ago and miss the old magazine. I always thought it was one of the finest magazines available. I wish you would devote more pages on the old subjects.

I agree with Mr. Charles L. Crumbly whose letter you published in the November 1975 issue when he said, "You have changed an informative sportsman's publication to a "Seenie South" type booklet for Georgia." I have never met Mr. Crumbly but I agree with his statement very much.

I am not criticizing "Seenie South" magazine. I believe it is a fine maga-

zine. I enjoyed reading it for many years. I subscribed to it to read of historical and interesting places in the south (including Georgia). I subscribed to *Outdoors in Georgia* for a different reason. I truly wish you could publish more issues containing those subjects that caused many of your subscribers to originally subscribe to *Outdoors in Georgia*.

Again I compliment you on the November issue which was an improvement over other recent issues. I compliment Bob Busby for his photo of the whitetail buck on page 3. I hope to see more photos of this type in future issues.

I am a bow hunter and would like to see more articles on bow hunting included in OIG. I think a story on Blackbeard Island—the arrival, transportation, stands, rules, and hills would make an interesting story for future issues. Also the Ogeechee River is a fine river in Georgia. I would like to see an article on it in some future issue.

J. D. Fleming
Swainsboro, GA

I would like to express my views on the matter of hunting. I have been lucky enough to be one of those who have had the opportunity to enjoy the woods as I was growing up. I am now fifteen years old and feel as though the outdoors was and still is one of the main factors in my life. Ever since I was knee-high I have loved to wake up at day break and head for the lake to test my skills at fishing.

This fall, my father and I have spent time in the woods, trying to polish up our knowledge of nature. I get tired of hearing people speak of how inhumane hunting is. If they feel we are endangering the existence of wildlife, I would like to see their expression while they watched the animals die of starvation because of over-population. No species ever hunted by modern sportsmen has ever become extinct. There are more than 100 species on the endangered list, none of which have ever been hunted by modern sportsmen. Hunters today are not against wildlife preservation. As

proof, hunters contribute more money for wildlife management than ALL the preservationist groups combined.

I hope that I never see the day when hunting is stopped by a group of people who don't look beyond the television. I am one of many who will oppose any actions against the outdoor activity of hunting.

Clint Demetriou
Tucker, GA

I have been wishing for some time to write you on the general excellence of your magazine. However, the November edition prompted me to do so at once.

I particularly wish to commend you on the editorial by Mr. Carlson and the article, "Anti-Hunting, a Wasteful Issue."

I have hunted all my life, now sixty-seven, and though lately a jaunt for quail is the extent of my activities, I simply cannot understand the anti-hunting crowd. I was especially upset by the recent TV documentary, "The Guns of Autumn." Such blatant twisting of the facts should not be allowed and the so-called follow up explanation did nothing to mend the situation.

Unfortunately, we do have some so-called hunters who abuse the privilege, but in my lifetime I've found them to be much in the minority.

As stated by Mr. Kozikey and Mr. Madson as well as by Mr. Carlson, why can't the non-hunters, who are entitled to their opinion, leave the hunters alone and use their energy in more worthwhile fields.

Without sensible taking of game and without decent game management we soon would have no game at all.

May I again congratulate you on the all-round excellence of your magazine and especially the new format which covers a lot more than just hunting and fishing alone. Keep up the good work and perhaps you will tip the scales against such propaganda as "The Guns of Autumn."

Leon English
East Point, GA

Coming Next Month...

The Nightstalkers. Jingle Davis relates a novice's initiation into three unusual coastal fishing techniques.

Less Waste with Waste. This seeming contradiction in terms is explored by Becky Marshall's report on a method of solid waste disposal which is more efficient than conventional landfills.

Seashells. Almost everyone collects seashells while idly strolling on the beach. John Young tells of the fascination of seashell collecting as a full-time hobby.

Purple Martins. Long sought by man as a neighbor, this beneficial bird is profiled by R. A. Romanes in February OIG.

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